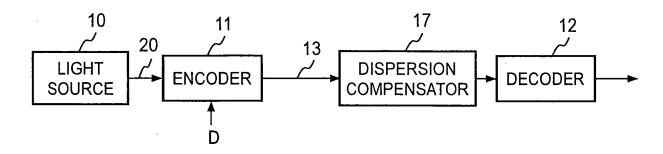
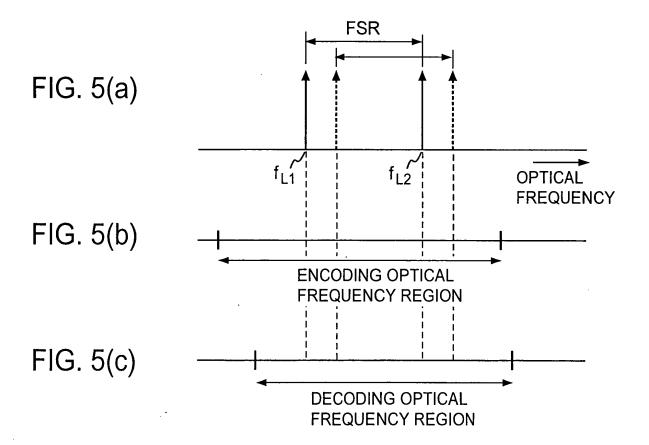


FIG. 4





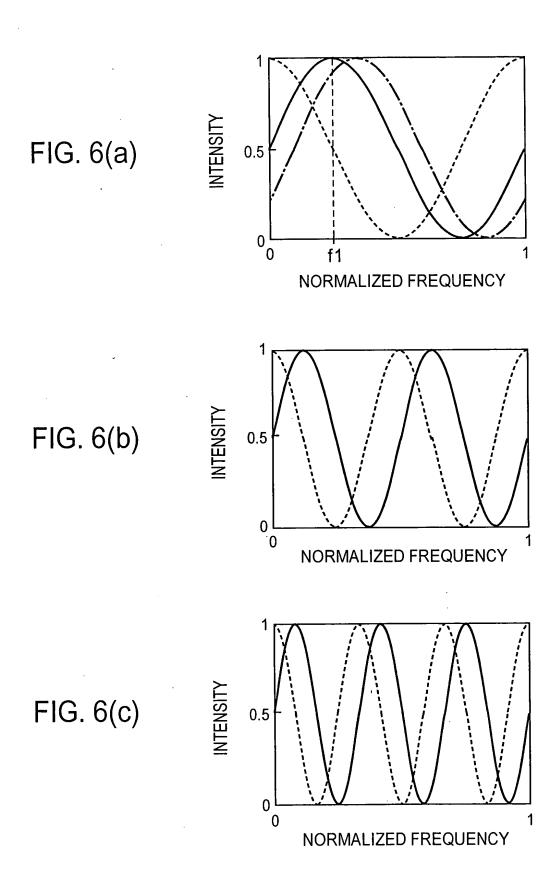


FIG. 7

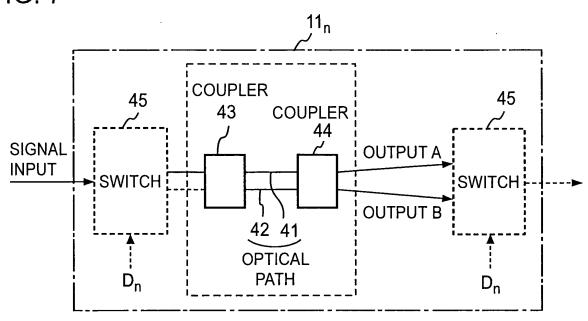


FIG. 8

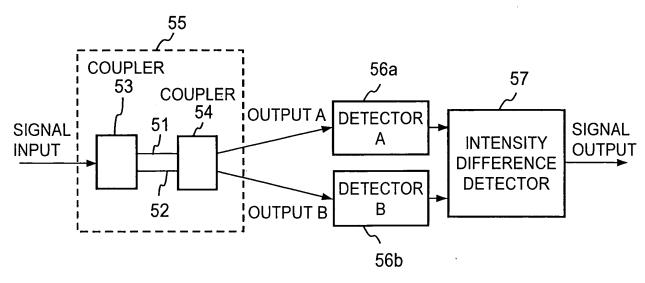
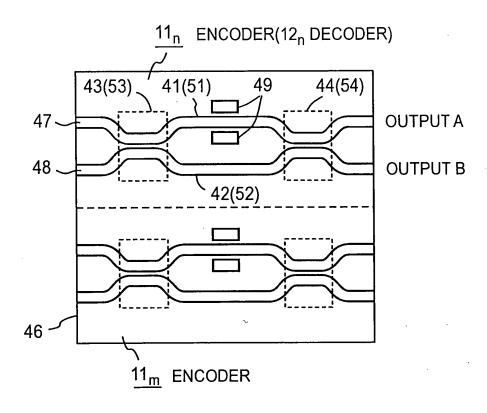


FIG. 9



$$H_1 = \left(\begin{array}{cc} 0 & 0 \\ 0 & 1 \end{array} \right)$$

$$H_2 = \begin{pmatrix} H_1 & H_1 \\ H_1 & H_1 \end{pmatrix} = \begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \\ 0 & 1 & 1 & 0 \end{pmatrix}$$

$$H_n = \begin{pmatrix} H_{n-1} & H_{n-1} \\ H_{n-1} & H_{n-1} \end{pmatrix}$$
 (n>1)

FIG. 11(a)

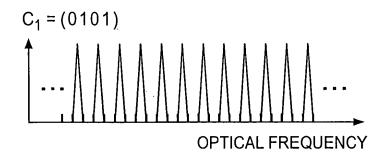


FIG. 11(b)

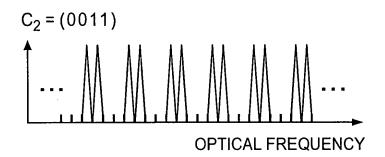
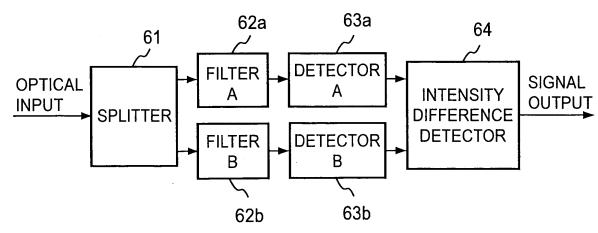
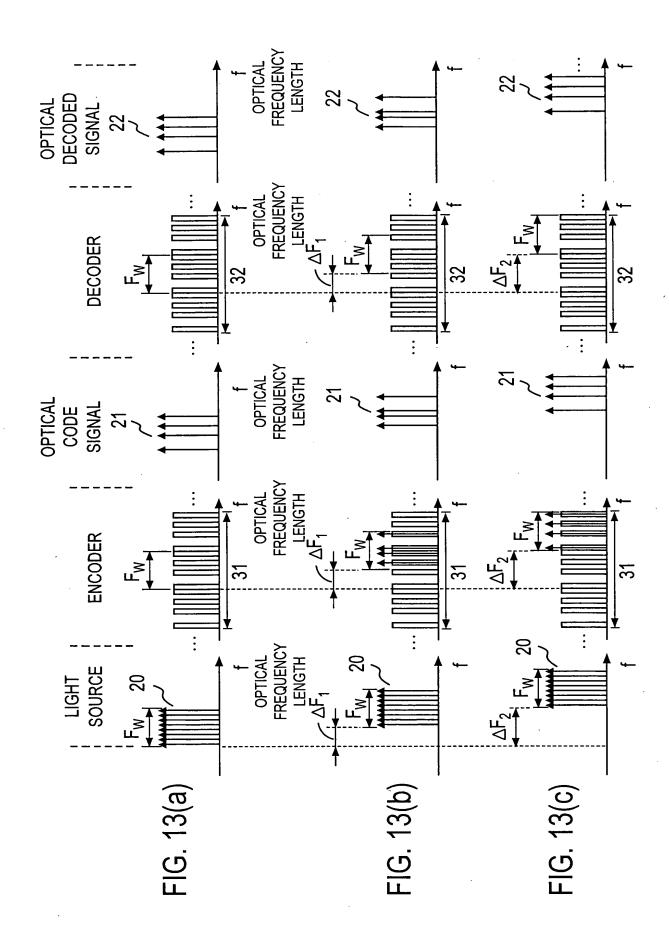


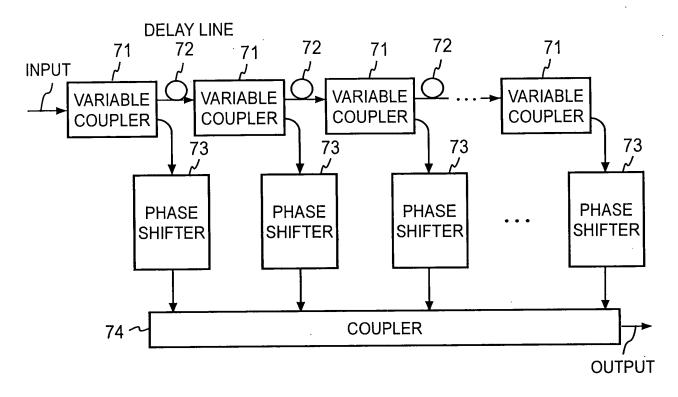
FIG. 12





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FIG. 14



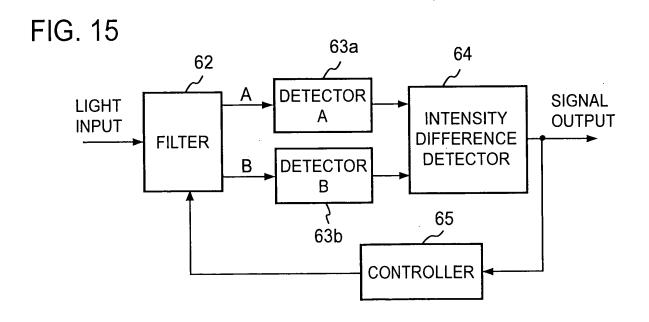


FIG. 16

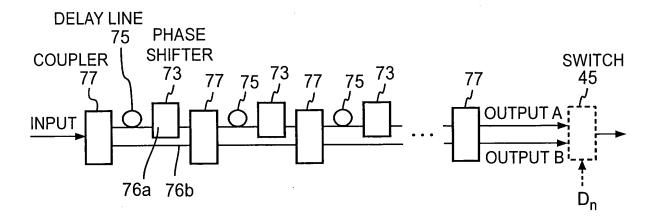


FIG. 17

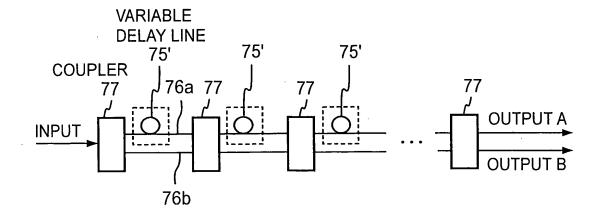


FIG. 18

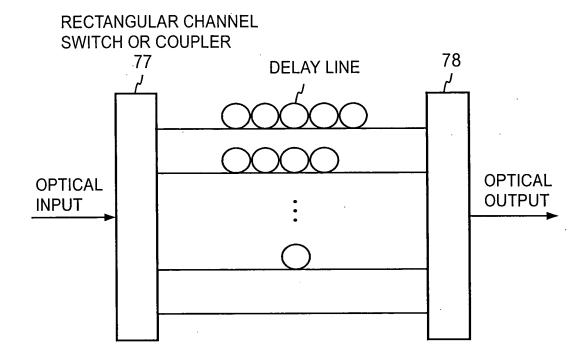
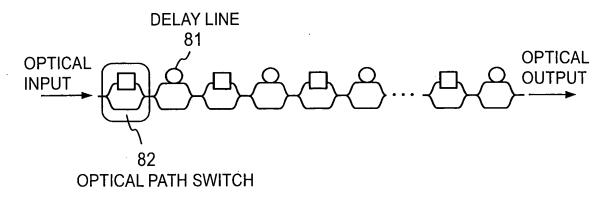


FIG. 19



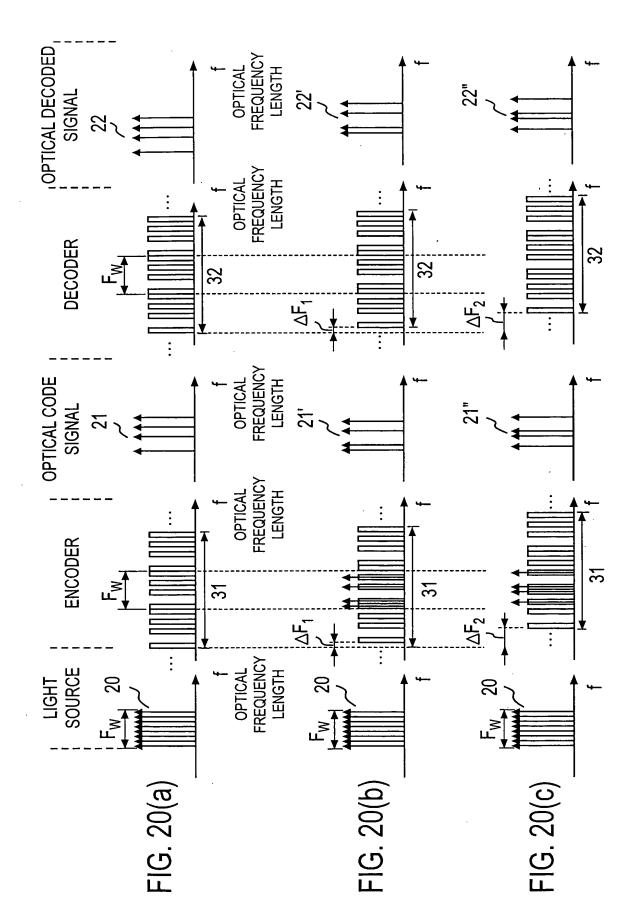


FIG. 21

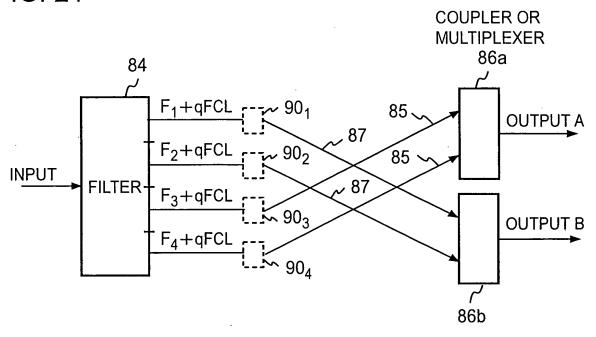
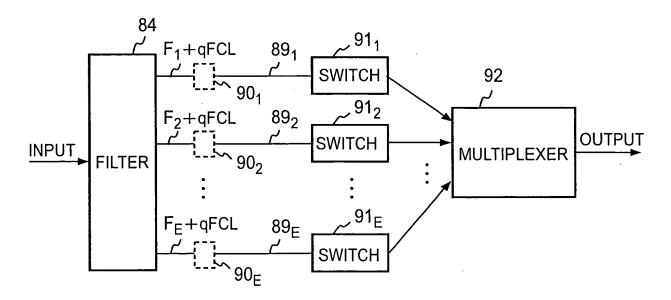


FIG. 22



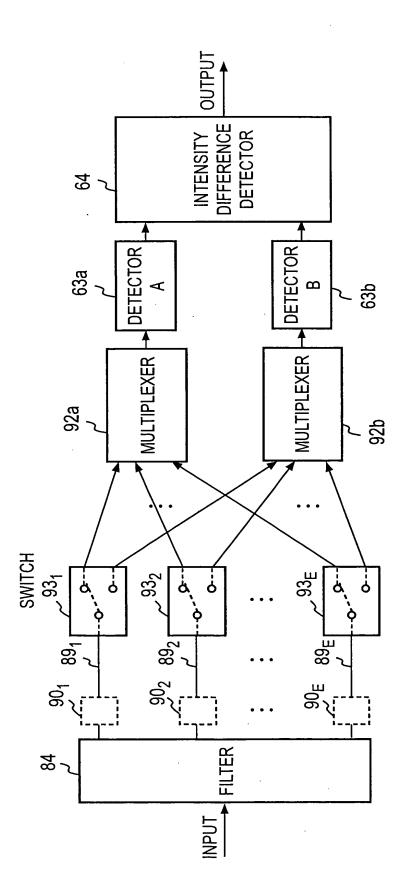
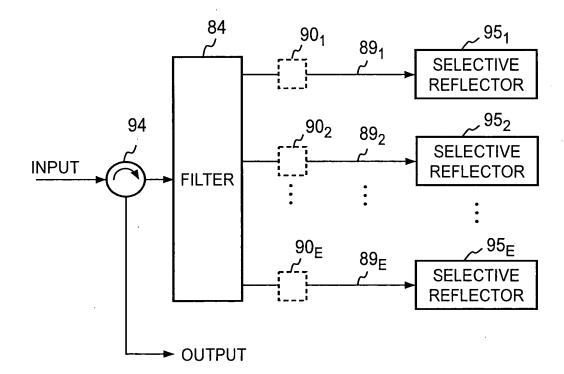


FIG. 23

FIG. 24



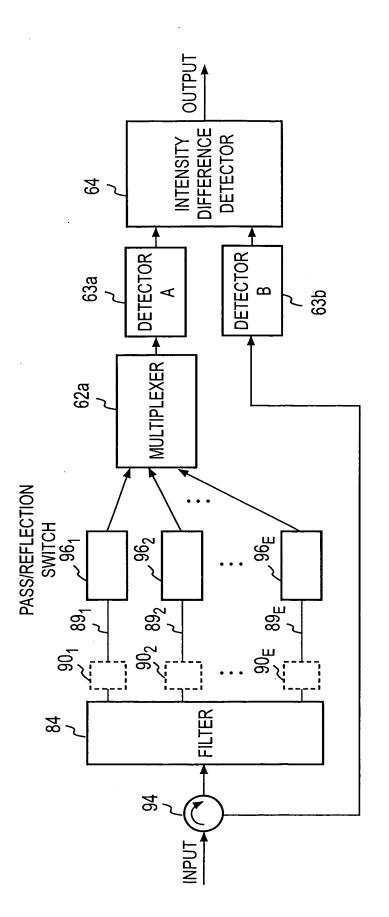


FIG. 25

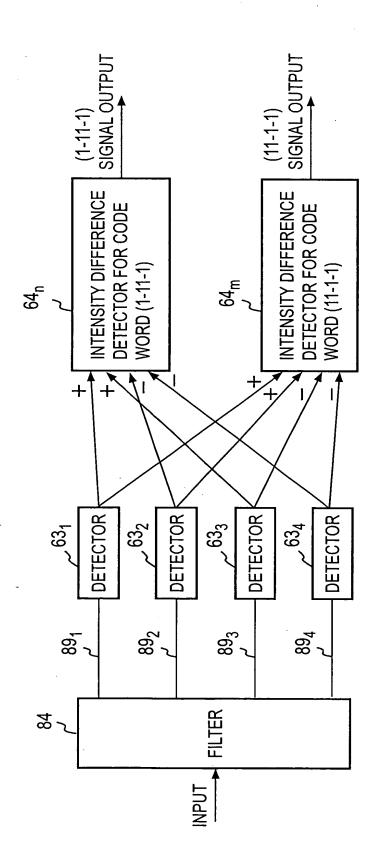


FIG. 26

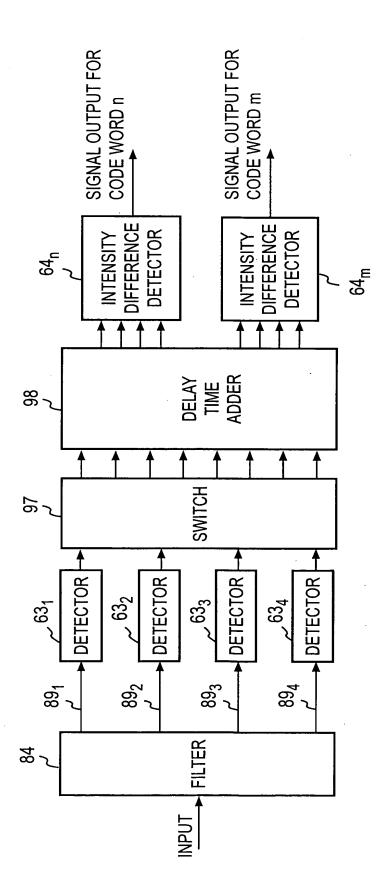


FIG. 27

FIG. 28

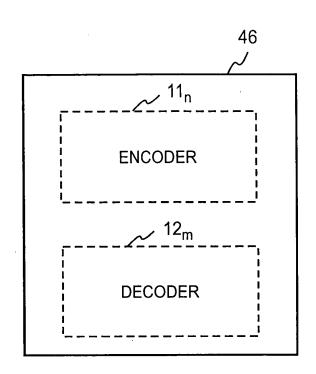
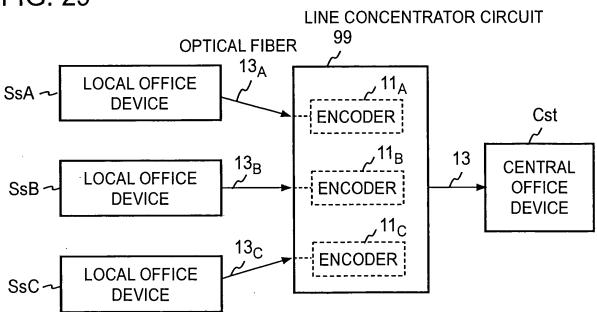
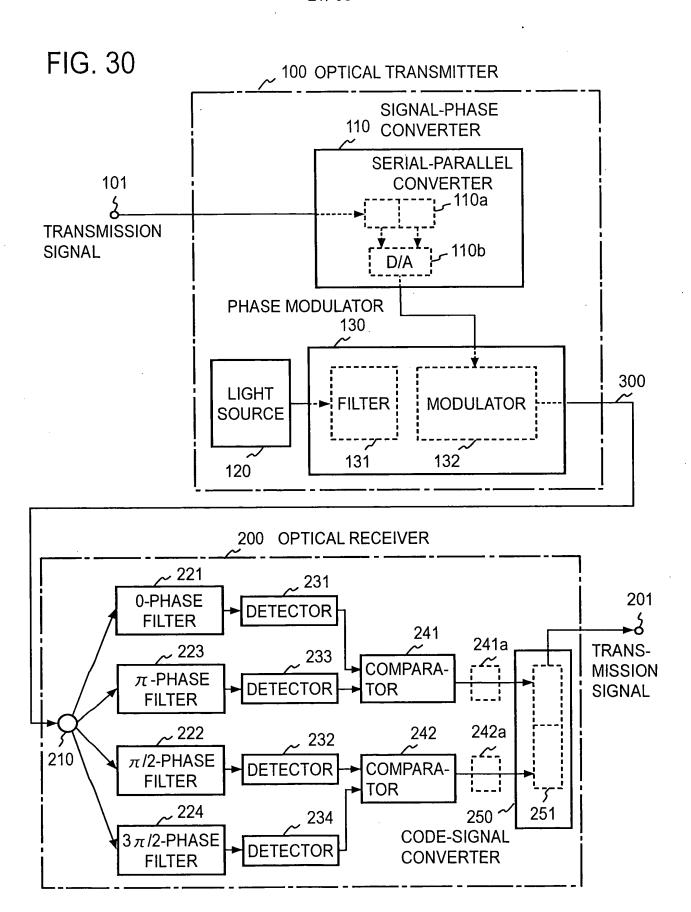


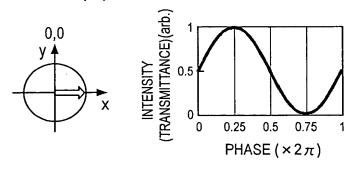
FIG. 29





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FIG. 31(a) PHASE 0



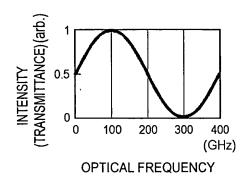
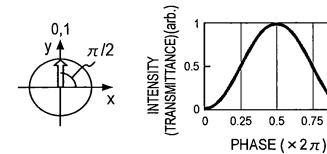


FIG. 31(b) PHASE $\pi/2$



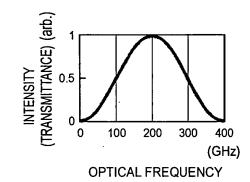
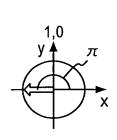
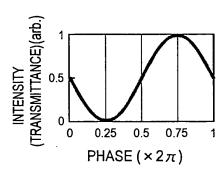


FIG. 31(c) PHASE π





0.5

0.75

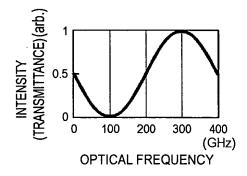
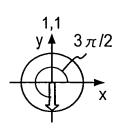
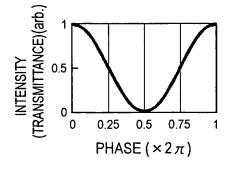
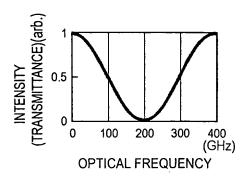


FIG. 31(d) PHASE $3\pi/2$







DETECTION INTENSITY	0.375 TIME	0.25	0.125 TIME	0.25 TIME	
FILTER OUTPUT	0 100 200 300 400 OPTICAL (GH2) FREQUENCY	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	
FILTER FUNCTION	0 100 200 300 400 OPTICAL (GH2) FREQUENCY	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	
MODULATOR OUTPUT	0 100 200 300 400 OPTICAL (GHZ) FREQUENCY				
OUTPUT FROM LIGHT SOURCE	0 100 200 300 400 OPTICAL (GHz) FREQUENCY	TIME			
	-	2	က	4	

FIG. 32-1

1IME TIME TIME TIME DETECTION INTENSITY 0.375 0.125 0.25 0.25 OPTICAL ^(GHz) FREQUENCY 0 100 200 300 400 OPTICAL ^(GHz) FREQUENCY OPTICAL (GHz) 0 100 200 300 400 OPTICAL (GHz) 0 100 200 300 400 0 100 200 300 400 FREQUENCY FREQUENCY FILTER OUTPUT OPTICAL (GHz) 0 100 200 300 400 OPTICAL ^(GHz) FREQUENCY 0 100 200 300 400 OPTICAL ^(GHz) FREQUENCY OPTICAL^(GHz) FREQUENCY 0 100 200 300 400 0 100 200 300 400 **FUNCTION** FREQUENCY FILTER 0 100 200 300 400 OPTICAL (GHz) FREQUENCY MODULATOR OUTPUT 0 100 200 300 400 OPTICAL ^(GHz) FREQUENCY LIGHT SOURCE **OUTPUT FROM** ¥ 2 ന 4

FIG. 32-2

DETECTION	0.125 TIME	0.25	0.375 TIME	0.25
FILTER	0 100 200 300 400 OPTICAL (GHz) FREQUENCY			
FILTER FUNCTION	0 100 200 300 400 OPTICAL (GHz) FREQUENCY			
MODULATOR OUTPUT			0 100 200 300 400 OPTICAL FREQUENCY	
OUTPUT FROM LIGHT SOURCE		TIME	0 100 200 300 400 OPTICAL (GH2) FREQUENCY	·
	-	2	က	4

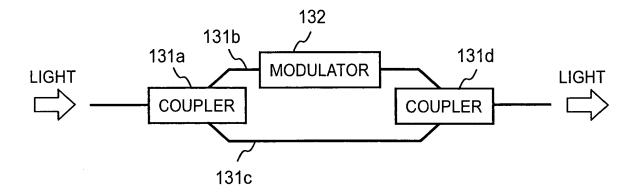
FIG. 32-3

TIME TIME TIME DETECTION INTENSITY 0.375 0.125 0.25 0.25 0 100 200 300 400 OPTICAL (GHz) FREQUENCY OPTICAL (GHz) 0 100 200 300 400 OPTICAL ^(GHz) FREQUENCY 0 100 200 300 400 OPTICAL (GHz) 0 100 200 300 400 FREQUENCY FREQUENCY FILTER OUTPUT 0 100 200 300 400 OPTICAL (GHz) FREQUENCY 0 100 200 300 400 OPTICAL (GHz) FREQUENCY OPTICAL ^(GHz) FREQUENCY 0 100 200 300 400 OPTICAL (GHz) FREQUENCY 0 100 200 300 400 FUNCTION FILTER 0 100 200 300 400 OPTICAL (GHz) FREQUENCY MODULATOR OUTPUT 0 100 200 300 400 OPTICAL (GHz) FREQUENCY LIGHT SOURCE **OUTPUT FROM** TIME T ~ က 4

FIG. 32-4

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FIG. 33



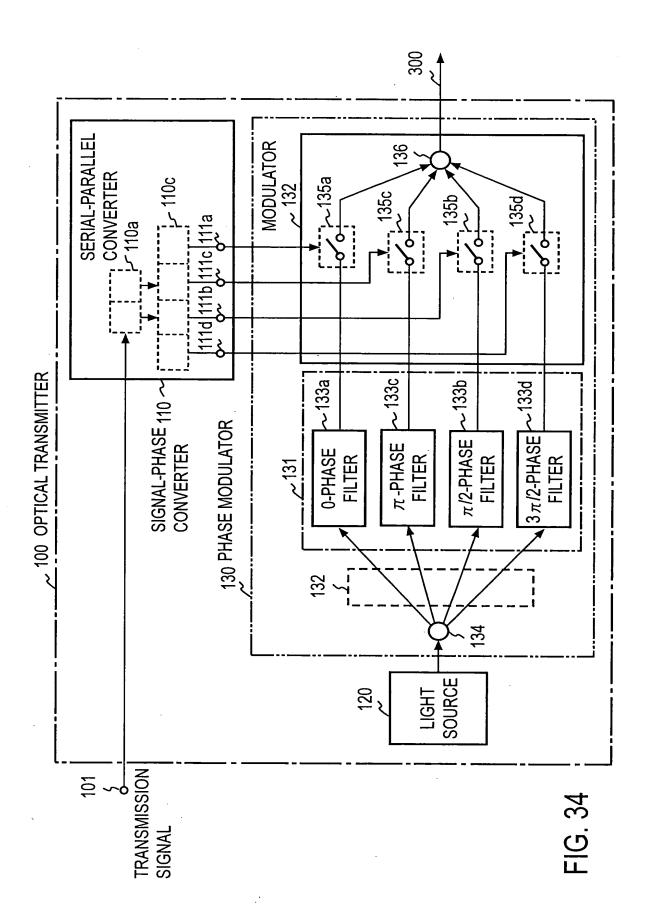
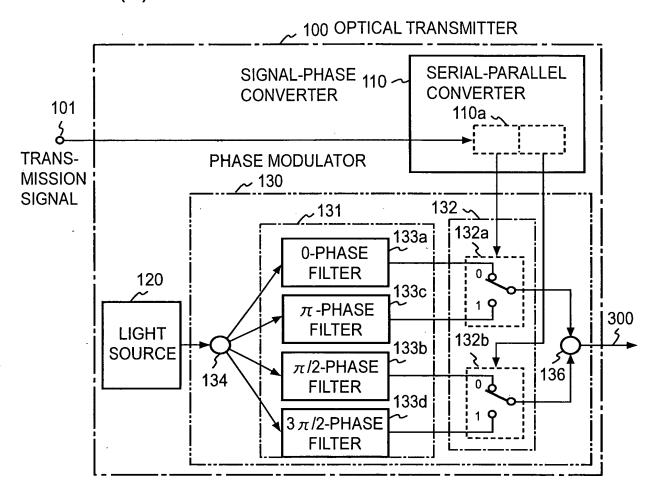


FIG. 35(a)



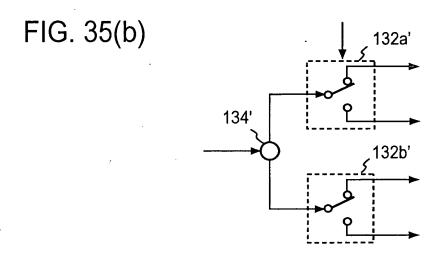


FIG. 36(a)

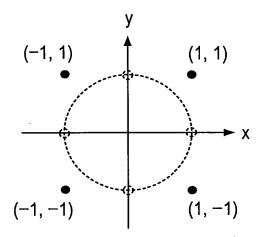
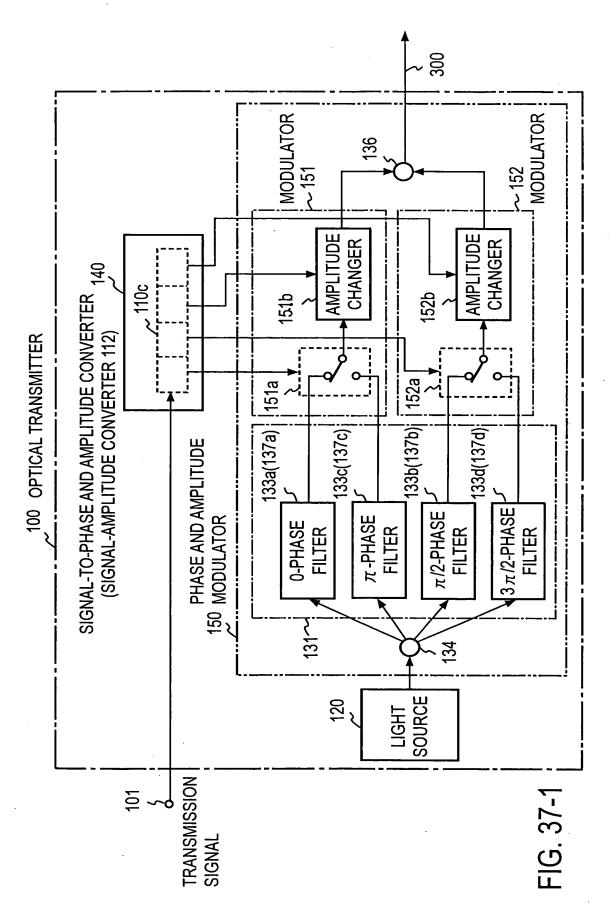


FIG. 36(b)

DATA SET	COORDINATE POINTS	SELECTED FILTER PHASES		
0, 0	1, 1	0, π/2		
0, 1	1, -1	0, 3π/2		
1, 0	-1, 1	π, π/2		
1, 1	-1, -1	π,3π/2		



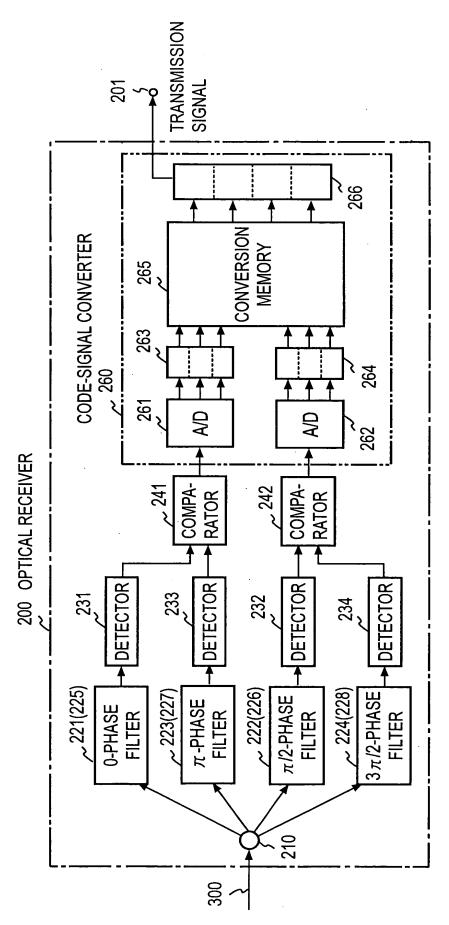


FIG. 37-2

FIG. 38(a)

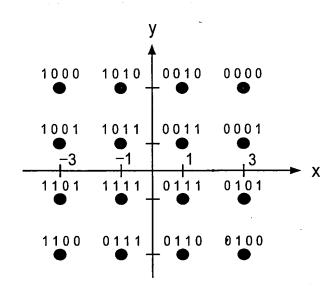
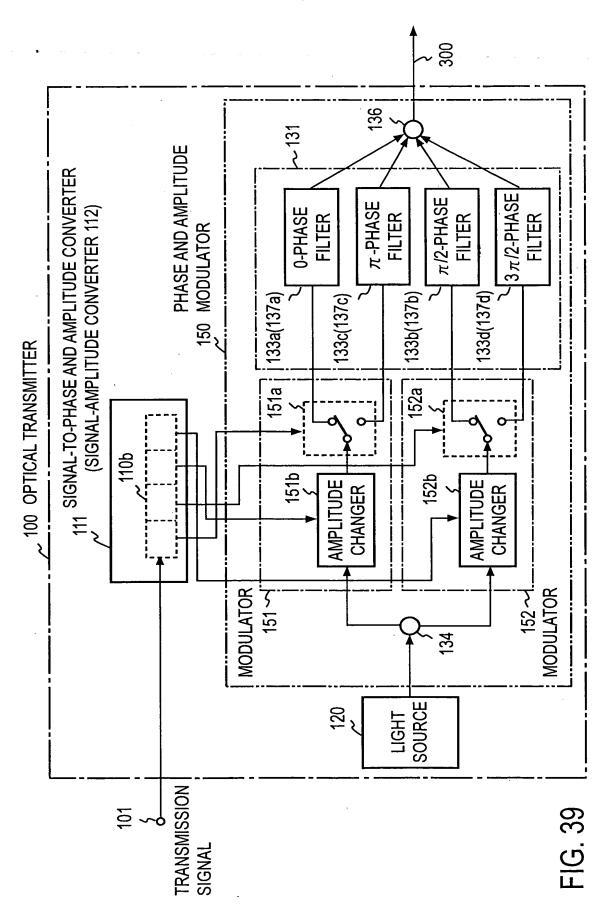


FIG. 38(b)

DATA OFT	0 π/2		π	3π/2	COMPARATOR	
DATA SET		$\pi/2$			241	242
0 0 0 0	3	3	0	0	3	3
0 0 0 1	3	1	0	0	3	1
0 0 1 0	1	3	0	0	1	3
0 0 1 1	1	. 1	0	0	1	1
0 1 0 0	3	0	0	3	3	-3
0 1 0 1	3	0	0	1	3	-1
0 1 1 0	1	0	0	3	1	-3
0 1 1 1	1	0	0	1	1	-1
1 0 0 0	0	3	3	0	3	3
1 0 0 1	0	1	3	0	3	3
1 0 1 0	0	3	1	0	1	1
1 0 1 1	0	1	1	0	1	1 -
1 1 0 0	0	0	3	3	-3	-3
1 1 0 1	0	0	3	1	-3 ·	-1
1 1 1 0	0	0	1	3	-1	-3
1 1 1 1	0	0	1	1	-1	-1



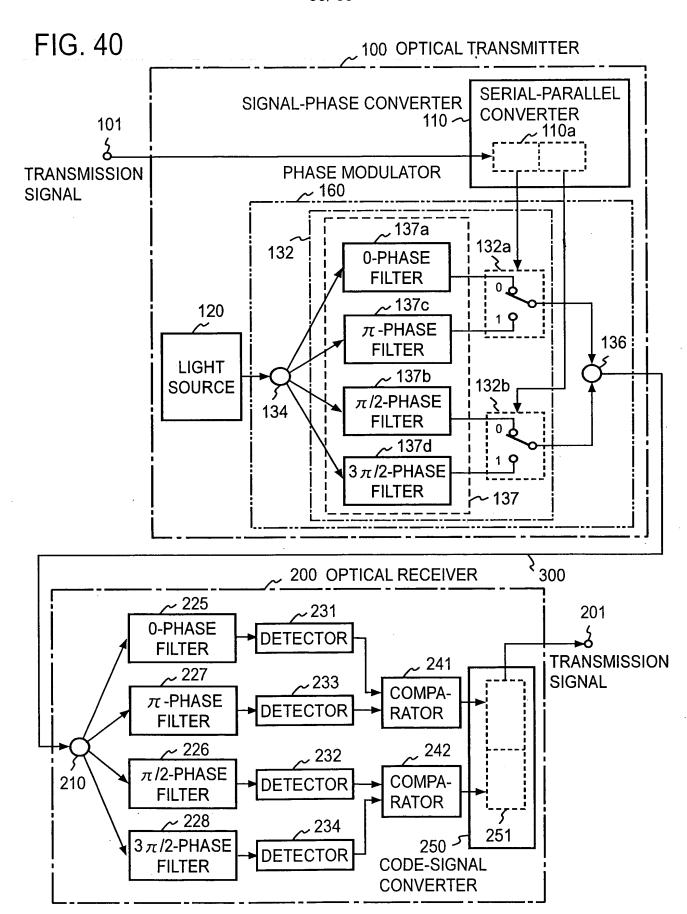


FIG. 41(a)

PHASE 0 (L=4, S=1)

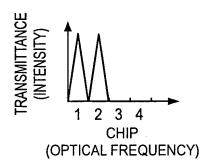


FIG. 41(b)

PHASE $\pi/2$ (L=4, S=1)

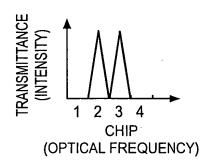


FIG. 41(c)

PHASE π (L=4, S=1)

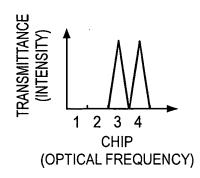
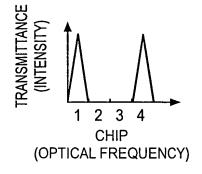


FIG. 41(d)

PHASE $3\pi/2$ (L=4, S=1)



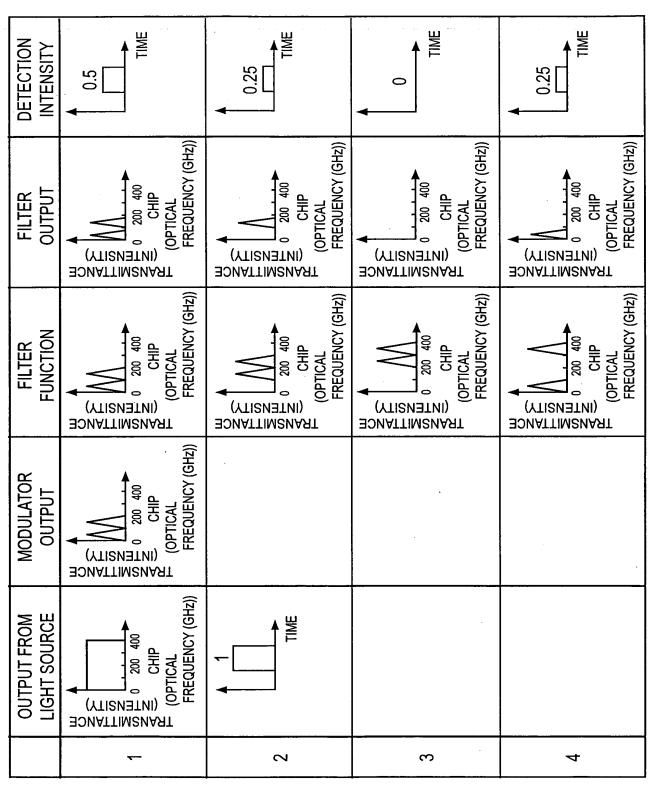


FIG. 42-1

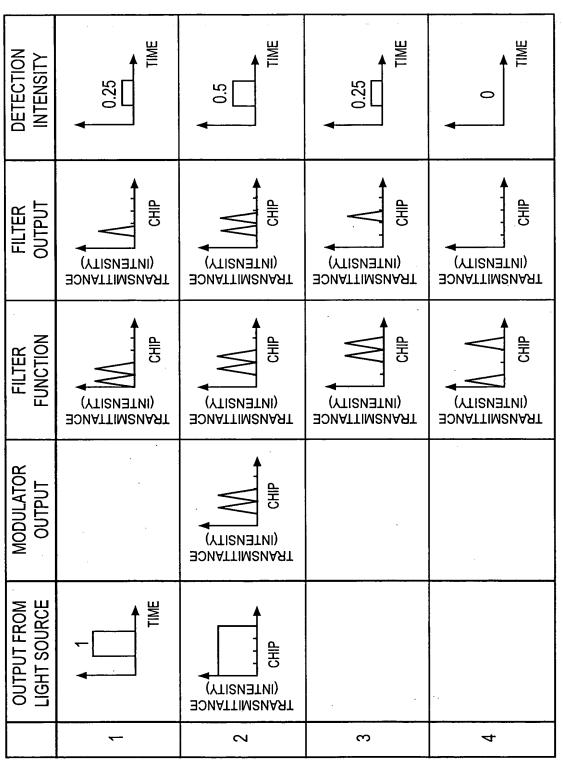


FIG. 42-2

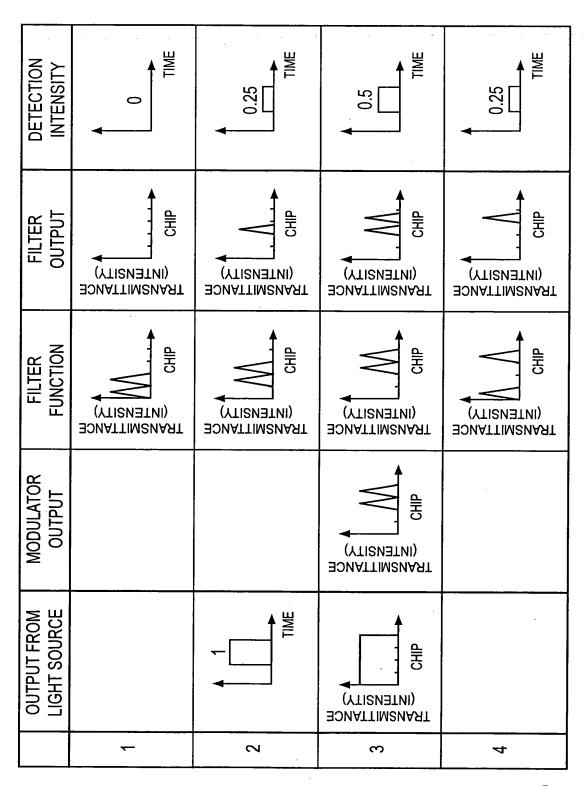
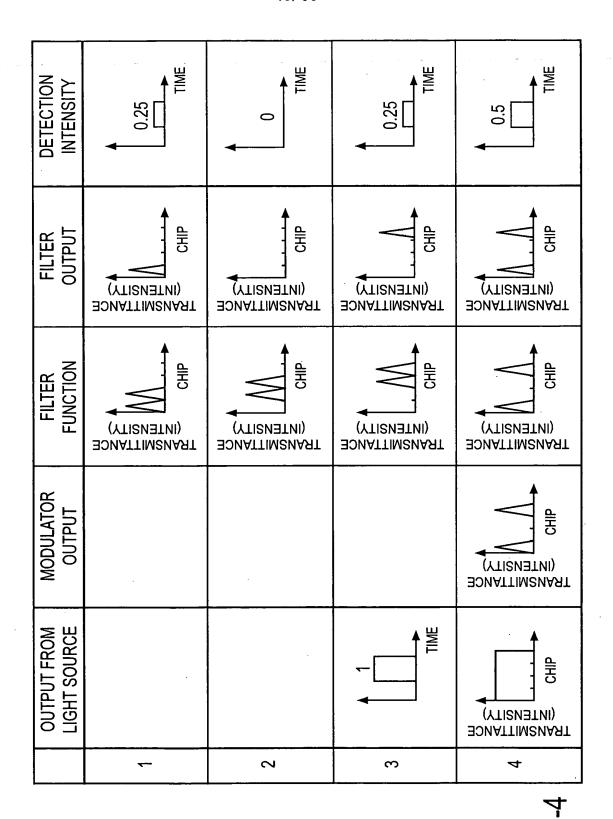
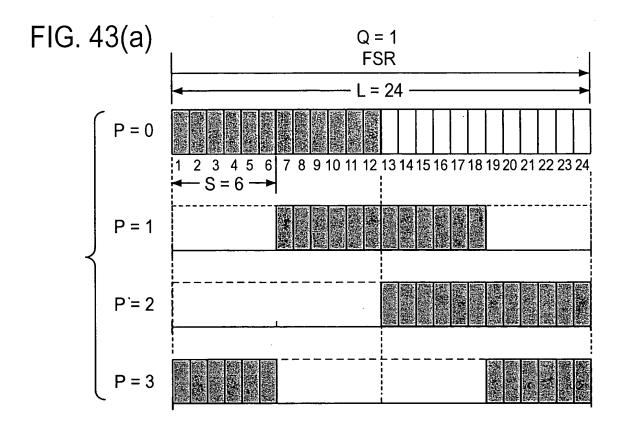
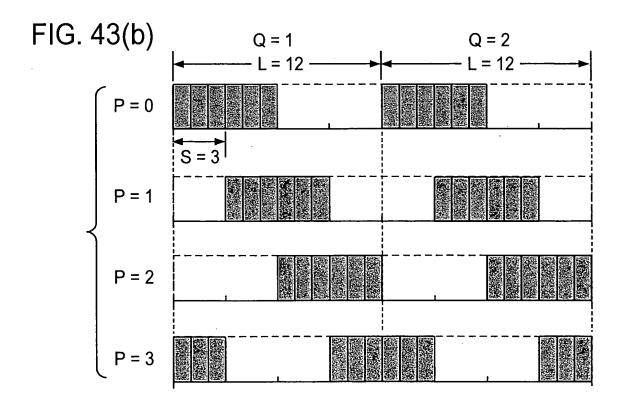


FIG. 42-3





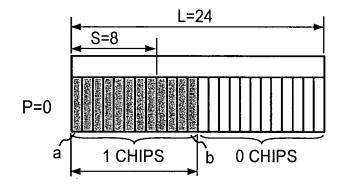


n=1, M=2, S=8, L=24

Q=1

n=2, M=3, S=4, L=12

FIG. 44(a)



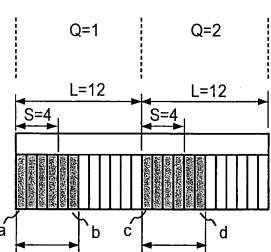
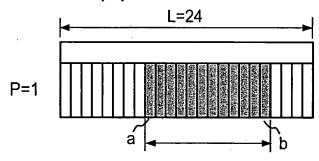


FIG. 44(b)



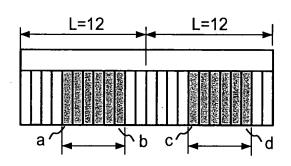
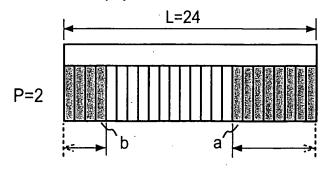
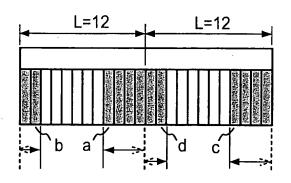


FIG. 44(c)





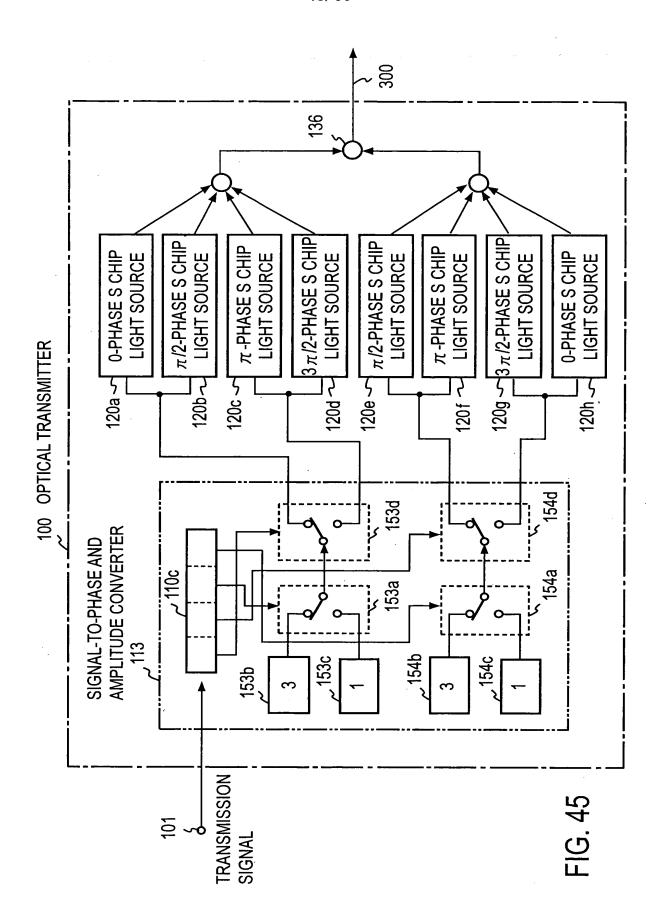
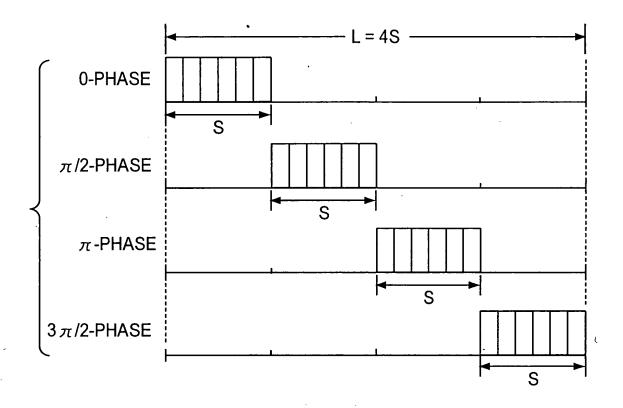
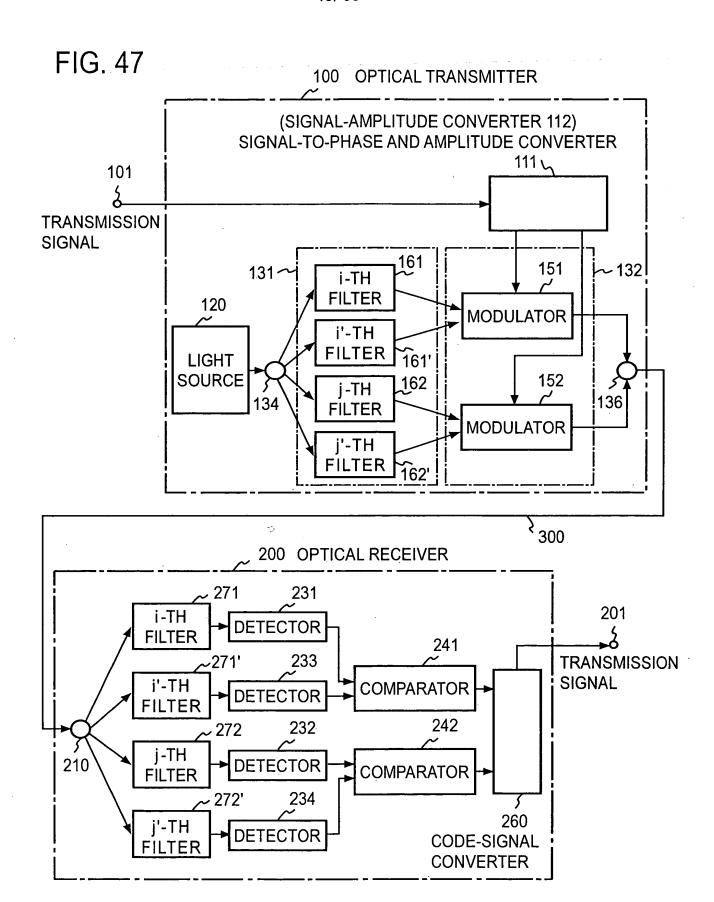
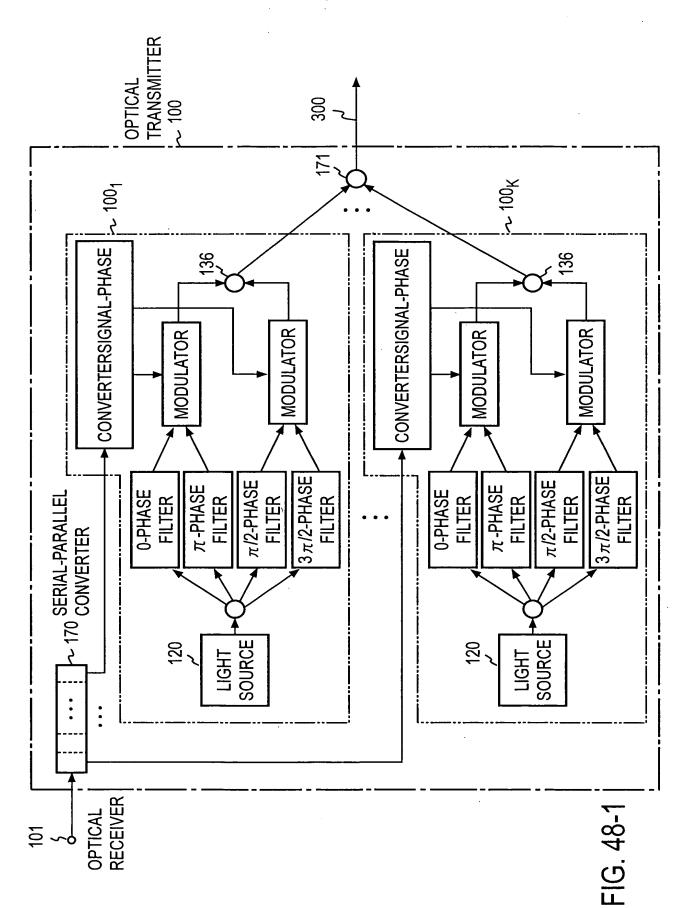


FIG. 46







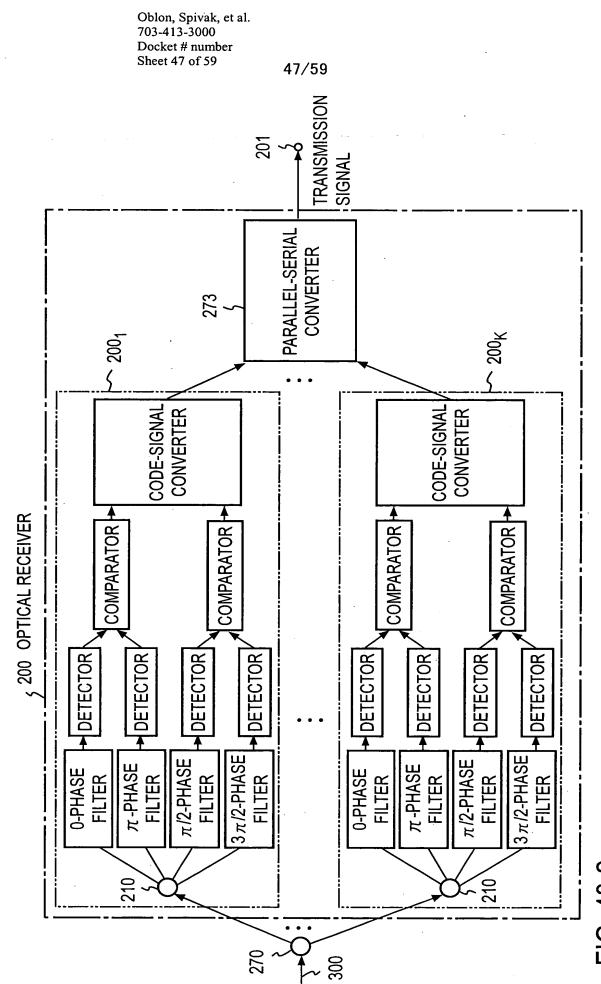
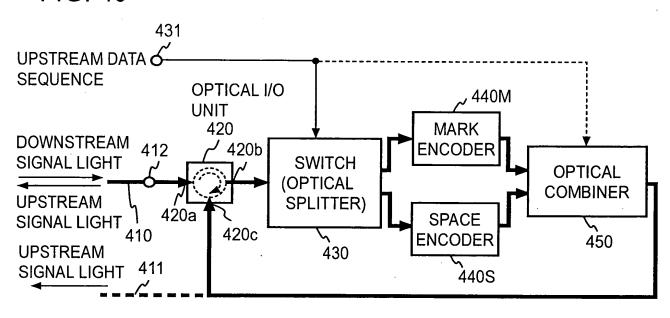


FIG. 48-2

FIG. 49



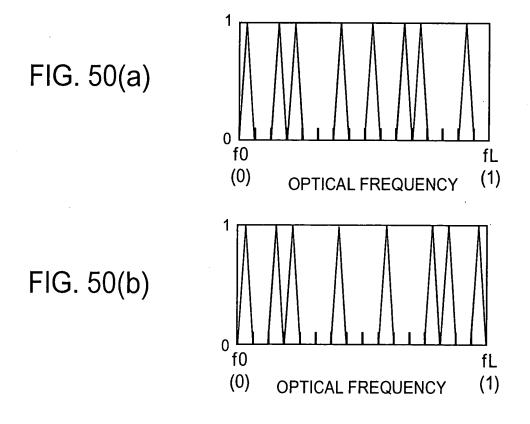


FIG. 51

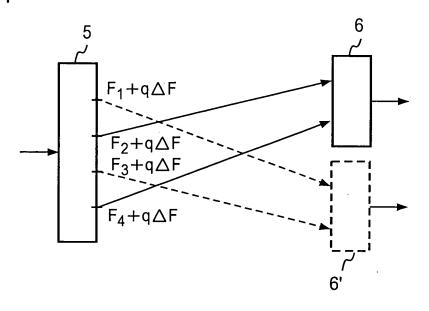
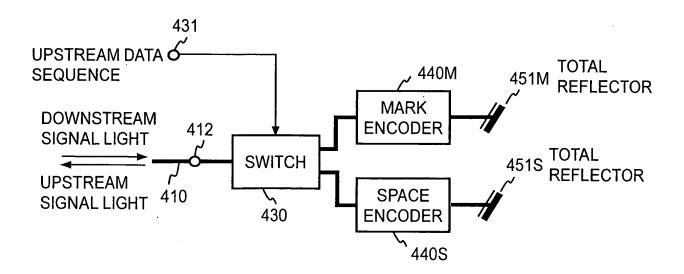
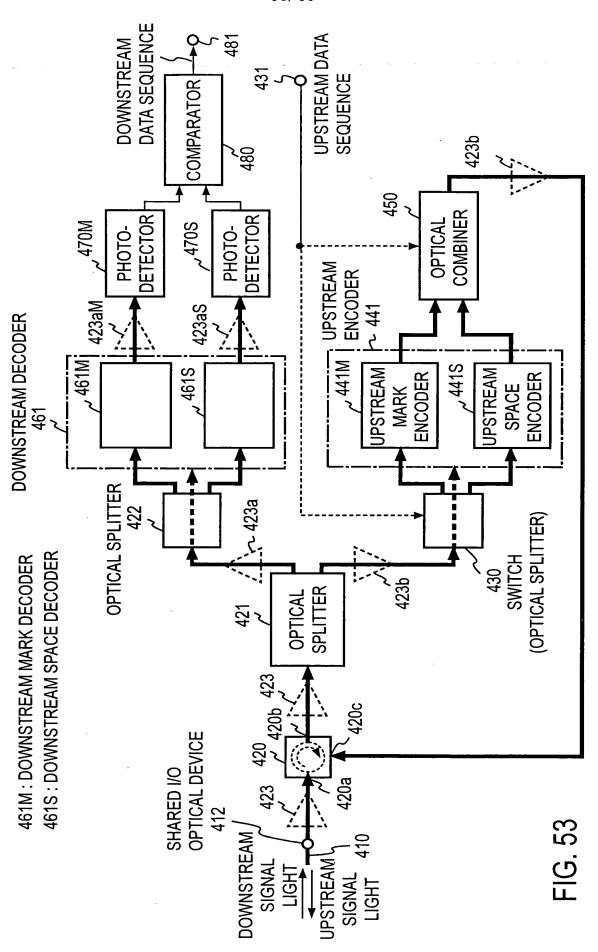
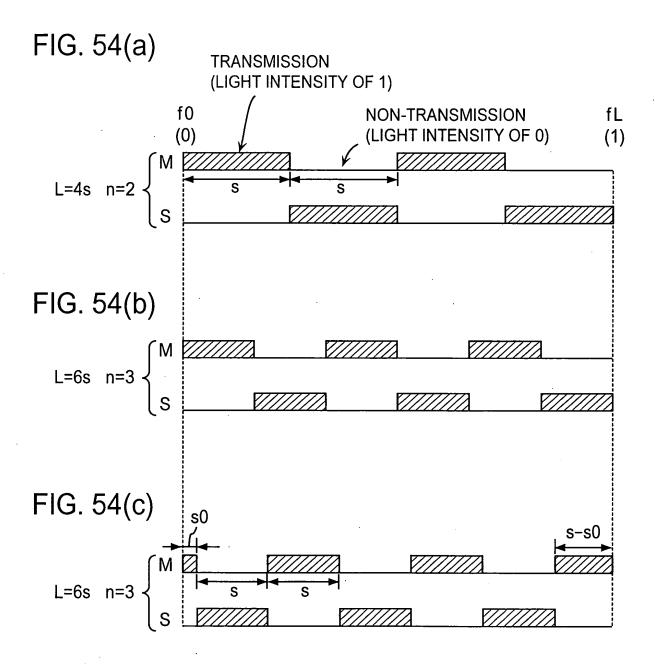


FIG. 52







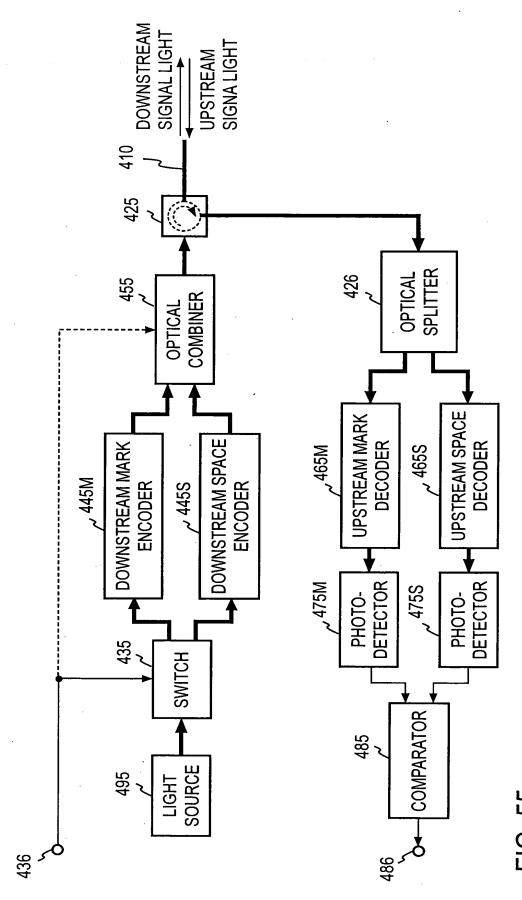


FIG. 55

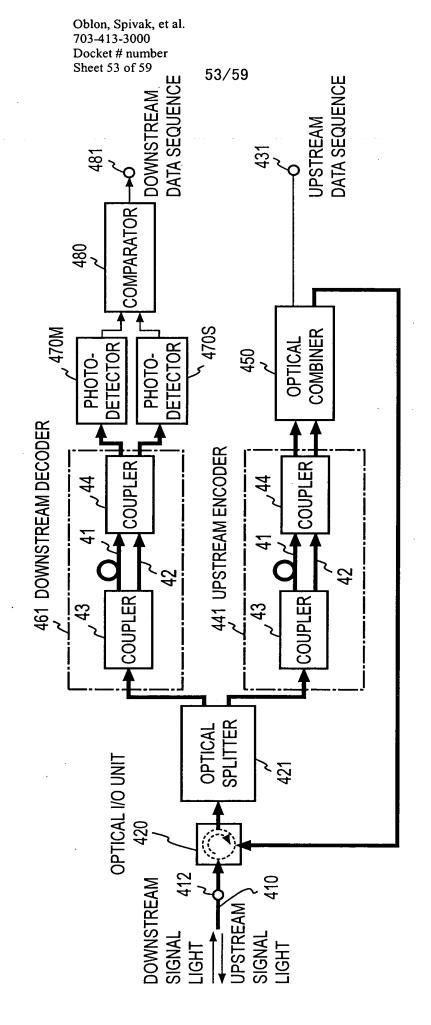


FIG. 56

